Implications of Pecking Order Approach on the Profitability of Quoted Agricultural Firms in Nigeria

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ABSTRACT

This study examines the extent to which Pecking Order Approach (Financial Structure) affects the Profitability of quoted agricultural firms in Nigeria. To determine the association between Pecking Order and Profitability, data are obtained from the audited financial statements of the agricultural companies listed on the Nigerian Stock Exchange. Panel Data method is applied using regression analysis to examine the level of relationship that exists between Pecking Order and Profitability of the listed agricultural firms in Nigeria between 2011 and 2016. The result obtained shows that sources of finance when looked at holistically have a major influence on profitability of agricultural companies in Nigeria. However, when looked at individually, finance sources do not have any significant effect on the profitability of agricultural firms in Nigeria. This is so because other factors such as interest expense influence the Pecking Order Model. The capital structure of a firm impacts its profitability greatly; therefore, capital structure decisions must be evaluated thoroughly.

Keywords: *Capital structure, Pecking Order Approach, Profitability, Quoted Agricultural Firms*

INTRODUCTION

Every business is set up with the ultimate aim of maximizing shareholders' wealth while remaining profitable. To accomplish this aim, the managers of the business must critically scrutinize issues before taking any decision, as this may negatively affect the profitability as well as the going concern of such businesses. Financing is a very vital aspect of any

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business and must be handled professionally. Corporate finance can be seen as an aspect of finance that deals with the capital structure of organizations, the actions that managers take to make the best use of the owner's equity, tools and analysis with which financial resources are allocated and so on. Capital structure, as defined by Westerfield, Ross, Jordan, Hillier and Clacher (2011), is the manner in which corporate operations are financed through a combination of debts and equity or hybrid security.

Pecking Order Theory was first described by Thorleif Schjelderup--Ebbe in 1921, but was popularized by Majluf and Myers in 1984. It is otherwise referred to as Pecking Order Model. It maintains that organizations rank their financing sources from short term debts to long term debts and to equity in accordance with the financing cost; equity financing will preferably be the last option. Hence, financing through short term and long term debts are most preferred, and when it cannot meet the financial requirement of the firm, equity financing comes to play. In their argument, Majluf and Myers (1984) point out that there exist information asymmetry between investors (outsiders) and managers (insiders). Information asymmetry exists when one faction to a transaction has more material knowledge when compared to the other. They argued that managers being insiders to an organization have added internal information than investors who are outsiders and act in such a way that the benefits the shareholders.

In any corporation, finance is raised from three principal sources which include short term debts, long term debts and Issuing of equities. This theory maintains that organizations would prioritize their sources of financing in such a hierarchy that short and long term debts are the favourites when available, hence relying on issuing equity only as a '*last resort*'. The Pecking Order Theory suggests that a firm has no target capital structure which it strives to achieve. It also goes further to state that there is no optimal capital structure and that decision regarding financing of a firm depends upon cost of raising funds from the different sources namely, Short term debt, Long term debt and Equity. Researchers have not been able to define an optimal capital structure. However, the pecking order theory has been used to explain capital structure of firms in developed countries. Since there is no optimal capital structure, this work evaluates the effects of Pecking Order Theory on the profitability of quoted agricultural firms in Nigeria from 2012 to 2015 with the aim of determining the association between pecking order and profitability.

THEORETICAL FRAMEWORK

Scholars have continued to debate on the subject of capital structure and firm's value. Modiglani and Miller (1958) create a pioneer empirical basis upon which further researches on capital structure were built. In their research, they establish that the

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value of a firm would be determined by the capability of its assets to create value and that no relationship exists between the firm's capital structure and the value of the firm, making debt financing and equity perfect substitutes. However, Modigliani and Miller (1958) base their work on a perfect capital market assumption with no taxes, no transaction costs and perfect and credible exposure of information, developed a theory known as the Theory of Capital Structure Irrelevance.

Nonetheless, as soon as Modigliani and Miller's ultimate supposition was laid down and the capital market considered imperfect, the capital structure of a firm becomes vital in ascertaining the value of the firm. (Deemsomsak, Paudyal and Pescetto, 2004). In a revised study, Modigliani and Miller (1963) changed their initial stance and considered taxation as a determining factor to a firm's structure of capital, proposing that firms should make use of as much debt as is feasible instead of using internal financing to take advantage of debt tax shield and maximize value of the firm. The theory argues that firm's value can be increased by using more of debt capital.

The new supposition of an imperfect market that includes cost of bankruptcy, cost of transaction, information asymmetry and taxes led to the advancement of another capital structure theory known as the Static Trade-off Theory. This new theory assumes that a company predetermines a debt-equity quotient and progressively advances towards the set aim. According to Majluf and Myers (1984), the amount of debt a firm would incur would be established by the trade-off amid the benefits of obtaining loans as well as the associated costs, maintaining that the assets of the firm as well as investment intents are kept stable. Debt-tax shield, signal of good firm operations and tendency to reduce spending on unprofitable projects by managers are some of the advantages associated with leverage. On the other hand, cost of distress which a firm incurs when stakeholders perceive a going concern uncertainty, cost associated with the possibility of uneconomical winding up, and cost of agency that may arise when the debtor is induced to act in such a way that may be detrimental to the creditor are some of the costs of borrowing (Bontempi, 2002). Prior to the development of the Pecking order theory, the Static trade-off theory was used to define structure of capital choice.

The Pecking Order Theory states that firms would trail a particular pecking order in its capital structure choice. As suggested by Majluf and Myers (1984), firms first employ internal finance and when it becomes necessitous, the safest securities are issued foremost. Firms employ debt, then hybrid securities the likes of bonds, then as a final option equity. The concept of pecking order theory was founded on the supposition that information asymmetry exists amid investors and managers. The theory also assumes that a manager would perform in preference of old shareholders and that the firm has no target debt-equity ratio. Here, firms which have greater investment

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opportunities than their stream of internally created funds would use funds from external sources. Conversely, firms which are highly profitable and liquid with narrow openings to invest would decrease leverage by repaying debt (Shyam-Sunder and Myers, 1999). The difference in the cost of finance using the different sources is due to the information asymmetry that exists between a firm and likely finance providers. For instance, where the firm is the funds provider, it will have extra knowledge about its activities than new shareholders who will be expecting a greater return on investments. Invariably, issuance of new shares would be costlier than funding from an internal source. This would also be the case amongst internal financing and debt financing. From the theories of information asymmetry, it can be deduced that firms when faced with capital financing decisions are inclined to follow a particular order (Majluf and Myers, 1984).

The hierarchy of preference depicts the costs associated with the several finance sources. Based on the assumption that managers act in favour of old shareholders, the Theory of pecking order holds that companies are inclined to trade equity when it is overpriced by the market (Chittenden, Hall and Hutchinson, 1996). Therefore, firms would not issue new shares except the value transferred to new shareholders from old ones is counterpoised by the net present value of the growth prospect. Hence, issuance of new shares would only be at a price higher than that necessitated by the actual market value of the firm. Consequently, a company's equity issuance is an indication of overpricing to investors. Where external financing cannot be avoided, secured debt would be preferred to risky debts and the issuance of common stocks as a final option (Abor, 2005).

Several researches have been carried out to determine the effects of profitability on leverage of firms. Researches carried out by Kester (1986), Rajan and Zingales (1995) and Wald (1999) establish a significantly negative correlation amid leverage and profitability. Roden and Lewellen (1995) in their research on leveraged buyouts establish a significant positive correlation between profitability and debt. A study carried out by Graham (2000) resolves that big and profitable companies present a low debt rate. Mesquita and Lara (2003) in their study find a negative relationship amongst debt for long-term financing and rates of return and a positive relationship for equity and short-term financing. Hadlock and James (2002) in their study discover that because firms foresee a higher return, they prefer debt financing. Booth, Aivazian, Demirguc-Kunt and Maksimovic (2001), studied the structure of capital of different firms in nations with exceptionally dissimilar capital markets. They discover that similar variables affect the structure of capital choice of companies irrespective of the great differences that may exist in their financial markets. In testing the capital structure determinants of Chinese listed firms, Chen (2004) find Chinese firms not to follow the static trade-off

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nor pecking order theory. He resolves however that Chinese firms tend to trail a Modified theory of Pecking order financing using undistributed profit, equity and then debt. Delcoure (2007) in a related study tests the structure of capital determining factors in Eastern and Central European nations and discovered that the agency theory, pecking order theory and static trade-off theory failed to explain the choice of capital structure. Delcoure (2007) concludes that firms favour equity over debt because unlike debt, equity has no obligations.

Summarily, no worldwide accepted theory exists to explain debt-equity choice. Diverse opinions have been suggested as regards choice of financing. Studies carried out by other researchers were on economies with a relatively stable monetary value. In Nigeria, the value of money is relatively unstable; this work seeks to look into the effect of each method of capital finance on profitability of listed agricultural companies in Nigeria.

METHOD

The *ex post facto* research design was used in gathering secondary data from published financial statements of the listed agricultural firms for this study. Panel Data method was applied using regression analysis to examine the level of relationship that exists between the dependent and the independent variables - Profitability and Financial Structure (Pecking Order). The population of this study comprises all the five (5) listed agricultural companies in the Nigerian Stock Exchange as at 2016 namely, Ellah Lakes Plc, Livestock Feeds Plc, Okomu Oli Palm Plc, Presco Plc and FTN Cocoa Processors Plc. Data were obtained for six years (2011-2016) from the audited financial statements of the agricultural companies as published by the Nigerian Stock Exchange. The multiple linear equation model was used to examine the effect of financial structure (Pecking Order Theory) on firms' profitability with the linear equation establishing a possible correlation between profitability and financial structure. The variables involved were financial structure (pecking order theory) and profitability. The regression is presented thus:

$$Y = \beta_0 + \beta_x + \mu_1 \quad \text{.....(1)}$$

Where

Y= profitability, represented by Profit After Tax (PAT) of the studied firms
X= financial structure (Equity, Long term debts and Short term debts)
β = Coefficient of financial structure
μ_1 = Error term

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Equation (1) can explicitly be expressed as:

Profitability = *f* (Financial structure) + c .....……..……..…….. (2)

Where:

C = Control variable

Representing two variables of the construct, the beneath equation is expressed with the addition of a control variable. The introduction of the control variable is to ensure a better certainty and enquiry of the correlation existing amid profitability and financial structure. The equation therefore is represented as;

PAT = *f* (Equity; Long Term Debt; Short Term Debt) + SIZE …….. (3)

The size of firm was introduced as a control variable to avoid arriving at an invalid result because it is a major determinant of the profit of such firm.

PAT = EQU + LTD + STD …...……..... (4)

Therefore, the Regression Equation is:

$PAT = \beta_0 + \beta_1 EQU + \beta_2 LTD + \beta_3 STD + \beta_4 SIZE + \mu_1$ .....…….. (5)

Where:

PAT = Profit After Tax

EQU = Shareholders' Equity

LTD = Long Term Debts

STD = Short Term Debts

SIZE = Size of the Firm (Log of Total Assets)

Data analysis was carried out by means of the Ordinary Least Square (OLS) method with the aid of SPSS version 20. The results obtained from the regression are presented on tables.

RESULTS AND DISCUSSION

The correlation matrix presented in Table 1 indicates that profitability has a very strong positive relationship with Equity; it also shows a positive relationship with long term debts as well as short term debts. The result also shows a strong positive correlation amid the value of the firm as represented by its size and profitability. The regression results in Table 2 show the systematic relationship between Profitability, Equity, Long Term Debt, Short Term Debt and Firm Size. The coefficient of determination (R-

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squared) shows the explanatory power of the model. This is the squared correlation coefficient, it generally predicts relationship and variability caused by the model. We use the adjusted component of the coefficient of determination to explain this because it accounts for degrees of freedom. It is only influenced by variables that cause variability in the dependent variable. The adjusted R-square value of 0.79 shows that the independent variables, Long Term Debt, Short Term Debt, Equity, and Firm Size explain about 79% of the systematic variations in performance of the organisations studied. Performance is influenced by several variable including economic policies, business environment, consumer preference, market pricing policies and so on. However, the entire activities of the firm is largely influenced by the amount of funds available for operations, hence, the results obtained from the model, showing a 79% degree of influence.

The Durbin Watson statistic of 1.702 hovers around 2 which is the conventional level and indicates the absence of autocorrelation in the independent variables. The F-statistic of 28.797 with a probability of 0.000 shows that the independent variables are jointly significant. This is lower than the F-statistic calculated, hence, the null hypothesis that states that the model does not have predictive variables is rejected. Therefore it is concluded that the model predicts the relationship between profitability and capital structure of the studied agricultural companies.

For equity, the result obtained shows a t-statistic of 2.900 and a probability of 0.008, the P-value is higher than the 5% (0.05) threshold level of significance, hence we accept the null hypothesis. The decision rule is also checked by confirming that t-statistic calculated of 2.900 is greater than t-statistic critical value. We therefore accept the null hypothesis that there is no significant effect of Equity alone on firms' profitability. For long term debts, with a t-statistic of -0.368 and probability 0.716, the P-value is higher than the 5% (0.05) level of significance threshold, hence we accept the null hypothesis. The decision rule is also confirmed by checking that t-statistic calculated of -0.368 is greater than t-statistic critical value. We therefore accept the null hypothesis that says Long Term Debt alone does not significantly affect firm profitability.

For short term debts, the result shows a t-statistic of -0.758 with a probability of 0.455, the P-value is higher than the 5% (0.05) level of significance threshold, hence we accept the null hypothesis. The decision rule is also confirmed by checking that t-statistic calculated of -0.758 is greater than t-statistic critical value. Thus, we accept the null hypothesis that states that short term debt does not significantly affect firms' profitability.

Generally funds used to finance operations are jointly significant. However, individually the funding sources used in the agricultural sector as discovered in this

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study were found not to be significant. The result shows that equity has a positive relationship with firm performance, although this relationship is not significant. This result is plausible in real life scenario because the firms' profitability which is the residual of incomes after expenses belong to the equity holders. With Equity funds, there will be no deduction of interest expense to third-party fund providers hence profits will increase proportionally. This result is in line with the findings of Wald (1999) who posits that profitability is negatively influenced by leverage but equity is preferred as it creates residues of profits that belongs solely to equity holders.

The result obtained equally shows that Long Term Debt has a negative relationship with firms' profitability. Although this relationship is not significant, the profitability of the companies are invariably influenced by the amount of geared funds used in operations principally because the cost of debts (interest expense) is charged to reduce revenue, consequently profit is reduced. Delcoure (2007) concludes that since it is not obligatory, firms favour equity over debt. This phenomenon remains acceptable since it comes with lower cost of capital and no interest expense to reduce profit over the term.

The results show also that there exist an inverse relationship between firms' profitability and Short term Debt. The relationship was not significant. This correlation can be harnessed to produce a desired positive result on performance with effective management policies as it concerns payment of creditors and short term loans. Generally, this type of finance accrues little or no interest expense hence the negative effect on firms profit is reduced. Short term debts are expected to be settled within 12 months thus the reduced cost of acquiring such debts. The payment period gives management a bargaining advantage to obtain low cost capital and fund business operations for the short term without resorting to costly long term debts. However, it still remains outsourced finance and it accrues payment for settlement out of revenue for the period.

Table 1: Correlation Matrix

VARIABLES	**PAT**	**EQU**	**LEV**	**STD**	**SIZE**
PAT	1	0.896	0.732	0.598	0.821
EQTY	0.896	1	0.867	0.720	0.915
LEV	0.732	0.867	1	0.814	0.787
SHTDBT	0.598	0.720	0.812	1	0.747
SIZE	0.857	0.915	0.787	0.747	1

Source: Data Computation, 2016

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Table 2: Regression Results

Dependent Variable: PAT
Method: Least Square
Included observations: 30

	Unstandardized Coefficients			
Variable	Coefficient	Std. Error	t-Statistic	Prob.
(Constant)	-4797179.16	3855173.31	-1.244	0.225
Equity	0.118	0.041	2.900	0.008
Long term debt	-0.021	0.058	-0.368	0.716
Short term debt	-0.108	0.142	-0.758	0.455
Size	337142.99	267031.97	1.263	0.218
R-squared	0.822			
Durbin-Watson stat	1.702			
Adjusted R-squared	0.793			
F-statistic	28.797			
Prob. (F-statistic)	0.000			

Source: SPSS 20

CONCLUSION

This study focused on the evaluation of the implications of Pecking Order Model on the profitability of quoted agricultural firms in Nigeria. It employed secondary data with panel data method applied using regression analysis to examine the level of relationship between Profitability and Financial Structure (Pecking Order) of the listed Agricultural firms in Nigeria between 2012 and 2015. As evidenced in the results, the sources of financing when looked at holistically have a major influence on profitability of Agricultural companies in Nigeria. Financing sources however when looked at individually do not have any significant effect on the profitability of Agricultural firms in Nigeria. Business entities are set up to make profit for the purpose of maximizing owners' welfare. The capital structure of a firm impacts its profitability greatly; therefore capital structure decisions must be evaluated thoroughly. As suggested by the pecking order theory, agricultural firms in Nigeria should place more emphasis on internal financing as interest expenses would invariably reduce profit when external financing is used. However, with a good mix of capital structure, profitability of agricultural firms in Nigeria will be maximized.

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